

Agilent Ref: 10031188 - 1
United States Application Serial No. 10/782,269

AMENDMENTS TO THE CLAIMS

Please enter the following amendments.

1. **(Currently Amended)** A method for preparing a MALDI sample plate, comprising:
 - (a) contacting a sample comprising analytes with an array of features, wherein said array comprises a planar substrate having a surface on which said features are positioned, and each of said features is surrounded by a fluid retaining structure, wherein each feature contains a capture agent in aqueous solution that specifically binds to an analyte;
 - (b) processing any analytes bound to said capture agents for MALDI analysis;and,
 - (c) transferring any processed analytes from step (b) to individual features of a MALDI sample plate each surrounded by a fluid retaining structure, to prepare said MALDI sample plate.
2. **(Original)** The method of claim 1, wherein step (a) employs an automated fluid delivery device, and steps (b) and (c) employ the same automated fluid delivery device.
3. **(Original)** The method of claim 2, wherein said device is a pulse-jet fluid delivery device.
4. **(Original)** The method of claim 2, wherein said device is a contact fluid delivery device.
5. **(Original)** The method of claim 1, wherein said array of features is fabricated by depositing said capture agents onto a substrate using a fluid delivery device that is also employed in steps (a) and (b).
- 6 - 7. **(Canceled)**
8. **(Original)** The method of claim 1, wherein said contacting step comprises

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separating analytes that are bound to said capture agents from those that are not bound to said capture agents.

9. (Original) The method of claim 1, further comprising:
drying said transferred products on said MALDI sample plate.
10. (Original) The method of claim 1, wherein said capture agents are antibodies.
11. (Previously presented) The method of claim 1, wherein said capture agents comprise an agent for binding to a solid support.
12. (Previously presented) A method for assessing a sample, comprising:
performing the method of claim 1; and
(d) evaluating said transferred products using a MALDI mass spectrometer, to gather data on and assess said sample.
13. (Original) The method of claim 12, wherein said evaluating is determining molecular weights of analytes bound to said capture agents.
14. (Previously presented) The method of claim 13, further comprising comparing said determined molecular weights to molecular weights of pre-determined analytes.
15. (Original) The method of claim 14, wherein said molecular weights for said pre-determined analytes are in a database.
16. (Original) The method of claim 12, wherein said evaluating is determining amounts of said analytes bound to said capture agents.
17. (Original) The method of claim 12, wherein said evaluating is qualitative or quantitative.
18. (Original) The method of claim 12, wherein said evaluating is assessing the

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formation of capture agent/analyte complexes relative to the formation of control capture agent/analyte complexes.

19. **(Withdrawn)** An automated system for preparing analytes for analysis by mass spectrometry, comprising:

an automated fluid delivery device that is fluidically connected to:

a sample containing said analytes; and

MALDI processing reagents;

wherein said system can sequentially deposit said sample and said agents onto the surface of an array.

20. **(Withdrawn)** The system of claim 19, wherein said automated fluid delivery device is further fluidically connected to:

a solution of capture agents,

wherein said system can deposit said capture agents onto the surface of an array prior to depositing said analytes and MALDI processing agents.

21. **(Withdrawn)** The system of claim 19, wherein said automated fluid delivery device is capable of transferring said sample and said reagents from the surface of said array to the surface of a MALDI sample plate.

22. **(Withdrawn)** The system of claim 20, wherein said array comprises a substrate comprising fluid retaining structures.

23. **(Withdrawn)** The automated system of claim 22, wherein said fluid-retaining structures comprise hydrophobic boundaries.

24. **(Withdrawn)** The system of claim 19, wherein said device is a robotic device.

25. **(Withdrawn)** The system of claim 24, wherein said device is a pulse-jet fluid delivery device.

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26. **(Withdrawn)** The method of claim 24, wherein said device is a contact fluid delivery device.
27. **(Withdrawn)** The automated system of claim 19, wherein said MALDI processing reagents contain cleavage reagents or a MALDI matrix.
28. **(Previously presented)** A method comprising transmitting data from the method of claim 12 from a first location to a second location.
29. **(Original)** The method of claim 28, wherein said second location is a remote location.
30. **(Original)** A method comprising receiving a transmitted result of a reading of an array obtained according to the method of claim 12.
- 31 – 36. **(Canceled)**
37. **(Currently amended)** A computer implemented method for preparing a MALDI sample plate, comprising:
directing a fluid delivery device to:
(a) contact a sample comprising analytes with an array of features each surrounded by a fluid retaining structure and containing a capture agent in aqueous solution that specifically binds to an analyte;
(b) process any analytes bound to said capture agents for MALDI analysis; and,
(c) transfer any processed analytes from step (b) from said array to individual features of a MALDI sample plate,
to prepare said MALDI sample plate each surrounded by a fluid retaining structure.
38. **(Withdrawn)** The method according to claim 1, wherein said method is performed by an automated system comprising:
an automated fluid delivery device that is fluidically connected to:

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a sample containing said analytes; and

MALDI processing reagents;

wherein said system can sequentially deposit said sample and said agents onto the surface of an array.

39. **(Withdrawn)** The method of claim 38, wherein said automated fluid delivery device is further fluidically connected to:

a solution of capture agents,

wherein said system can deposit said capture agents onto the surface of an array prior to depositing said analytes and MALDI processing agents.

40. **(Withdrawn)** The method of claim 38, wherein said automated fluid delivery device is capable of transferring said sample and said reagents from the surface of said array to the surface of a MALDI sample plate.

41. **(Withdrawn)** The method of claim 38, wherein said fluid-retaining structures of said array comprise hydrophobic boundaries.

42. **(Withdrawn)** The method claim 38, wherein said device is a robotic device.

43. **(Withdrawn)** The method of claim 38, wherein said device is a pulse-jet fluid delivery device.

44. **(Withdrawn)** The method of claim 38, wherein said device is a contact fluid delivery device.